

REMARKS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claim 12 is cancelled. Claims 11, 16, 17, 21, 24 and 28 are amended. Claims 11 and 13-28 are pending.

I. Rejection under 35 U.S.C. § 103

In the Office Action, at page 2, numbered paragraph 2, claims 11-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over W.O. 98/15149 to Laiho-Steffens in view of U.S. Patent Pub. No. 2004/0152471 to MacDonald et al. Claim 12 is rejected. This rejection is respectfully traversed because the combination of the teachings of Laiho-Steffens and MacDonald does not suggest:

receiving reports from the subscriber station at a receive station providing coverage for a radio cell in which the subscriber station is located...;

storing the reports in a memory of the receive station of the radio communication system providing coverage for the radio cell in which the subscriber station is located;

receiving a request for position estimation at the receive station of the radio communication system; and

estimating the position at a position determining unit taking into account at least two reports stored prior to the request for position estimation,

as recited in amended independent claim 11.

Laiho-Steffens teaches that the mobile station 150 receives and measures information and then sends this information to the network management system 100. This information is compared with field strength information in a field strength matrix. The network management system 100 estimates the location of the mobile station 150 using the information received and measured by the mobile station 150 so that the route of the mobile station 150 is able to be followed. Further, Laiho-Steffens teaches that the field strength matrix and information on the coordinates are stored on a hard disk and a database.

Laiho-Steffens does not discuss or suggest that the reports received from the mobile station 150 are stored in a memory of a receive station, for example, serving base station 124, which provides coverage for a radio cell in which the mobile station 150 is located. Laiho-Steffens discusses only that the information is received at the network management system 100,

but not that the information is received at a receive station that provides coverage for a radio cell in which a subscriber station is located. Additionally, Laiho-Steffens does not discuss or suggest that a receive station of a radio communication system, for example, serving base station 124, receives a request for position estimation.

MacDonald discusses in paragraph 14 that the processor of the mobile location module is configured to compare at least two signal strength values with at least two predetermined signal strength values associated with at least two geographical locations. This is an example of parallel processing of independent data sets. However, McDonald does not discuss or suggest that two successive sets of signals from the same mobile device. In the present invention, the mobile device can be stationary and the reported signal strengths will not change, so the associated geographical location is the same. This is not the case with McDonald. McDonald describes parallel processing of information.

MacDonald also discloses that the mobile station sends measurements periodically and that the RSS values from the mobile station are compared with values that have been stored. The stored data has been derived from computations or measurements (i.e., test drives with radio measurement vehicles).

In paragraph 0091 of MacDonald, MacDonald discusses power contours that are the result of radio propagation calculations and discusses other predetermined power levels which indicate the usage of tracking vehicles described in paragraph 0011.

The present invention of amended independent claim 11, for example, discusses that the receive station of the network communication system stores at least two received reports about the signal strength to use them for a location estimation process. The stored reports of the present invention of claim 1 are not related to the field strength matrix of Laiho-Steffens or the predetermined values of MacDonald.

Therefore, as the combination of the teachings of Laiho-Steffens and MacDonald does not suggest "receiving reports from the subscriber station at a receive station providing coverage for a radio cell in which the subscriber station is located...; storing the reports in a memory of the receive station of the radio communication system providing coverage for the radio cell in which the subscriber station is located; receiving a request for position estimation at the receive station of the radio communication system; and estimating the position at a position determining unit taking into account at least two reports stored prior to the request for position estimation," as recited in amended independent claim 11, claim 11 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

Further, the combination of the teachings of Laiho-Steffens and MacDonald does not suggest “a memory for storing the reports, which the receive station providing coverage for a radio cell in which a subscriber station is located has received from the subscriber station, in which the reports in each case contain information relating to a signal strength at a location of the subscriber station of at least one receive signal received by the subscriber station and sent by a transmitting station; [and] a transmitter to transmit, after a request for position estimation has been received at the receive station of the radio communication system, at least two reports stored prior to receiving the request for position estimation,” as recited in amended independent claim 28. Therefore, claim 28 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Claims 13-27 depend either directly or indirectly from independent claim 11 and include all the features of claim 11, plus additional features that are not discussed or suggested by the references relied upon.

As to claim 13, both Laiho-Steffens and MacDonald store predetermined field strength values and not measured signal strength values.

As to claim 14, MacDonald discloses that the mobile station sends measurements periodically in paragraph 0112 and not in paragraph 0012. Paragraph 0012 discloses that the RSS values from the mobile station are compared with values that have been stored. The stored data has been derived from computations or measurements (i.e., test drives with radio measurement vehicles).

As to claim 15, MacDonald sends one measurement report with six measured values. MacDonald does not discuss sending a number of reports.

As to claim 16, paragraph 0014 of MacDonald is ambiguous as to the at least two sets of reported signal strengths being compared with predefined values being at least two sets of measurements performed one after the other by one mobile station or being at least two computation processes performed in parallel, thus describing parallel processing capability.

As to claim 17, in paragraph 0091 of MacDonald, MacDonald discloses the usage of the location process for the mobile assisted handover (MAHO). MacDonald does not disclose sending or storing measurement reports.

As to claim 19, in paragraph 0091, MacDonald discloses received power levels but does not disclose the transmitting power of the transmitting base station.

As to claim 20, MacDonald discloses tracking of the mobile station by the network. The present invention discloses that the report which has been sent from the subscriber station to the base station additionally contains the transmitting power of the subscriber station and the received signal strength at which the report (sent from the subscriber station) has been received at the receiver station (base station). MacDonald does not suggest that a report sent from a subscriber station includes a transmitting power used to transmit the report and a receiving power at which each report was received.

As to claim 21, MacDonald does not discuss or suggest storing received measurement reports. MacDonald only discusses storing the calculated location of the mobile station used for tracking the mobile station.

As to claim 22, MacDonald does not discuss storing measurement reports.

As to claim 23, MacDonald does not discuss requesting measurement reports.

As to claim 24, MacDonald discusses comparing measured values, but one measurement report contains six measurement values. The present invention discloses the behavior of the base station when the position location unit requests a second set of reports and the required number of reports is not present at the base station. MacDonald does not suggest such.

As to claims 26 and 27, in paragraph 0091, MacDonald teaches about received power levels, but does not discuss the transmitting power of the transmitting base station. In lines 2 and 3 of paragraph 0091, the sets of received signal strengths, power levels or communication parameters all refer to being received and measured by the mobile station. Paragraph 0112 discloses tracking the mobile station, but MacDonald does not specifically mention storing location information.

Therefore, claims 13-27 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 103(a) rejection is respectfully requested.

Conclusion

In accordance with the foregoing, claim 12 has been cancelled. Claims 11, 16, 17, 21, 24 and 28 have been amended. Claims 11 and 13-28 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

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Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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